

Work Order ID ~~76916~~

**\*76916\***

Page 1

Wednesday, November 23, 2011 3:37:39 PM

Item ID: D119-696-041

Accept

**\*N900040100\***

Setup Start

**\*NS1\***

Revision ID:

Stop

**\*NS2\***

Item Name: Single Cargo Mirror Assy

Start Date: 11/23/2011 Start Qty: 3.00

**\*3\***

Cust Item ID:

Required Date: 11/23/2011 Req'd Qty: 3.00

**\*3\***

Customer:

Reference: ECN 11-648

Approvals:

Process Plan: *MF*

Date: *11-11-23*

Tooling:

Date:

Run Start

**\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop

**\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D4450

A

IIN-D119-696

A

180

0.00

**\*180\***

Packaging

Memo

0.00

Packaging

PULL FROM STOCK ~~D119-696-041~~ X 3-B18131 AND BRING TO GA

*SA 12/6/24*

*①*

190

0.00

**\*190\***

Small Fab

Memo

0.00

Small Fab

DISASSEMBLE KIT  
REMOVE AND DISCARD D3074-1 (ARM) D2057 PLUG

REMOVE AND PUT ASIDE:  
D2011-101 X 1 AND SCRAP HARDWARE

*make D4450-1 to replace old arm*

INSTALL D4450-1 ARM AND REPLACEMENT D2057 AS PER DRAWING  
INSTALL D2011-101 MIRROR TO D4450-1 ARM USING NEW HARDWARE

*EP 12/6/27*

# Work Order ID 76916

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Item ID: D119-696-041

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Item Name: Single Cargo Mirror Assy

Stop **\*NS2\***

Start Date: 11/23/2011 Start Qty: 3.00

**\*3\***

Cust Item ID:

Required Date: 11/23/2011 Req'd Qty: 3.00

**\*3\***

Customer:

Reference: ECN 11-648

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

200

QC5- Inspect part completeness to step on W/O

0.00

**\*200\***

QC

Memo

0.00

Quality Control

210

Identify as per dwg & Stock Location: \_\_\_\_\_

**\*210\***

Packaging

Memo

ID AND STOCK UNDER NEW BATCH NUMBER

0.00

Packaging

ADD NEW PAPERWORK

220

QC4- 100% Inspect kits for completeness

0.00

**\*220\***

QC

Memo

0.00

Quality Control

12-03-12.  
ID + stock under  
new batch  
number

# Work Order ID 76916

**\*76916\***

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Wednesday, November 23, 2011 3:37:39 PM

Item ID: D119-696-041

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Item Name: Single Cargo Mirror Assy

Stop **\*NS2\***

Start Date: 11/23/2011 Start Qty: 3.00

**\*3\***

Cust Item ID:

Required Date: 11/23/2011 Req'd Qty: 3.00

**\*3\***

Customer:

Reference: ECN 11-648

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

210

**\*230\***

QC

Quality Control

~~QC21 - Final Inspection - Work Order Release~~

0.00

ID + STK.

Memo

0.00

(K) Sp 12-03-13

PPP 8/219.

QC21 - Final Inspection - w/o release

12/3/13

ME 12-03-13

# Picklist Print

Wednesday, November 23, 2011 3:37:39 P

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Work Order ID: 76916

Parent Item: D119-696-041

Parent Item Name: Single Cargo Mirror Assy

Start Date: 11/23/2011

Required Date: 11/23/2011

Start Qty: 3.00

Required Qty: 3.00

Comments: IPP REV:A 11.11.14 NEW ISSUE DD VERF:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN960JD10 Washer	NAS1149D0363J	Purchased	No				Each	0.0000		18		11/23/2011	
AN960JD416L Washer	NAS1149D0416J	Purchased	No				Each	11.0000		3		11/23/2011	
				<u>Location</u>			<u>Loc Qty</u>	<u>Loc Code</u>					
				FP			11						
					110153		11						
D3014-1 Locknut		Manufactured	No				Each	64.0000		3		11/23/2011	
				<u>Location</u>			<u>Loc Qty</u>	<u>Loc Code</u>					
				ST030			64						
					18605		64						
D4450-1 Arm		Manufactured	No				Each	0.0000		3		11/23/2011	
MS21042L3 Nut		Purchased	No				Each	8,148.0000		9		11/23/2011	
				<u>Location</u>			<u>Loc Qty</u>	<u>Loc Code</u>					
				ST300			213						
					117441		16						
					117885		35						
					118451		5						
					118927		157						
				ST516			5994						
					119017		5994						
				ST518			1941						
					119075		1941						

# Picklist Print

Wednesday, November 23, 2011 3:37:39 P

Page 2

Work Order ID: 76916

Parent Item: D119-696-041

Parent Item Name: Single Cargo Mirror Assy

Start Date: 11/23/2011

Required Date: 11/23/2011

Start Qty: 3.00

Required Qty: 3.00

MS27039-1-18

Purchased

No

Each

66.0000

9

Screw

Location

Loc Qty

Loc Code

ST291

66

115589

66

3 12/02/27

M 304 TR. 500 W. 049

M 117598

8 FF 12-01-25

# DART SERVICE INSTRUCTION

**TO AMEND INSTALLATION INSTRUCTIONS IIN-D119-696 REV. A AND  
INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D119-696 REV. 0**

REF FAA STC: SR01043SE

REF TC LETTERS OF ACCEPTANCE: C-11-0119/-0120/-0121

REF EASA STC: EASA.IM.R.S.01551

## PURPOSE

This service instruction details the D119-696-011/-013 Cargo Mirror Installations at CHG 006 which have been improved with D4450-1/-043 Arm/Arm Assembly. The D4450-1/-043 replaces D3074-1/-3 and feature a more robust and ergonomic design. Customers/operators who wish to upgrade existing D119-696-011/-013 Cargo Mirror Installations at earlier change numbers may procure the DSI-9578-011/-013 Kit from Dart. The revised weight and balance and parts list on page 2 of this service instruction are to be used for D119-696-011/-013 Cargo Mirror Installations at CHG 006.

## INSTALLATION

### Replacement of D3074-1 arm on D119-696-011 Single Mirror Installation: # 76916

1. Remove and discard existing D3074-1 Arm and existing D2057 Plug.
2. Install D4450-1 Arm and replacement D2057 Plug in accordance with Figure 1 of this service instruction.
3. Install D2011-101 Mirror to D4450-1 Arm using D3014-1 Locknut as shown in Figure 1 of this service instruction.

### Replacement of D3074-3 Arm on D119-696-013 Dual Mirror Installation:

1. Remove and discard the existing D3074-3 Arm and associated parts/hardware. Note that the D3074-3 Arm also includes 2 X D2052 Brackets, 2 X D2055 Clamps, a D2056 Bellcrank, 2 X D2054 Bushings, and attaching hardware.
2. Install D4450-043 Arm Assembly in accordance with Figure 1 of this service instruction.
3. Install 2 X D2011-101 Mirrors to D4450-043 Arm Assembly using D3014-1 Locknuts as shown in Figure 1 of this service instruction.

## MAINTENANCE AND CONTINUED AIRWORTHINESS

Inspection requirements for D4450-1/-043 Arm are identical to D3074-1/-3 Arm they are replacing. Refer to ICA-D119-696.

## WEIGHT AND BALANCE

Installation	Weight	LATERAL		LONGITUDINAL	
		Arm	Moment	Arm	Moment
D119-696-011	2.3 lb	7.0 in	16.1 in-lb	22.0 in	50.6 in-lb
Cargo Mirror Installation (CHG 006)	1.04 kg	0.18 m	0.19 m-kG	0.56 m	0.58 m-kG
D119-696-013	3.2 lb	1.0 in	3.2 in-lb	22.0 in	70.4 in-lb
Cargo Mirror Installation (CHG 006)	1.45 kg	0.03 m	0.04 m-kG	0.56 m	0.81 m-kG

A	NEW ISSUE	MB	11.10.04
REV.	DESCRIPTION	BY	DATE
DESIGN	<b>DART AEROSPACE USA, INC</b> KENT, WA	DRAWING NO. REV. A	
DRAWN		DSI 9578 SHEET 1 OF 3	
CHECKED		TITLE SCALE	
MFG. APPR.		MIRROR ARM UPGRADE NTS	
APPROVED		DATE 11.10.04	
DE APPR.	<small>COPYRIGHT © 2011 BY DART AEROSPACE USA, INC                  THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS                  NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT                  WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>		

# PARTS LIST

Qty -011	Qty -013	Qty -041	Qty -043	Part Number	Description
X				D119-696-011	SINGLE CARGO MIRROR INSTALLATION
	X			D119-696-013	DUAL CARGO MIRROR INSTALLATION
1		X		D119-696-041	SINGLE CARGO MIRROR ASSEMBLY
	1		X	D119-696-043	DUAL CARGO MIRROR ASSEMBLY
		1	2	D2011-101	MIRROR ASSEMBLY
1	1			D2053	BRACKET
		2	**2	D2054	BUSHING
		2	**2	D2055	CLAMP
		1	**1	D2056	BELL CRANK
		1		D2057	PLUG
1	1			D2067	CONNECTOR
1	1			D2071	CABLE ASSEMBLY
		*1	*2	D3014-1	LOCKNUT
		1	**1	D3072-1	BRACKET
		1	**1	D3072-2	BRACKET
1	1			D3083-1	PLACARD
		1		D4450-1	ARM (WAS D3074-1)
			1	D4450-043	ARM ASSEMBLY (WAS D3074-3)
4	4			AN526-1032R9	SCREW
4	4	6	**6	AN960JD10	WASHER
		*1	*2	AN960JD416L	WASHER
		3	**3	MS21042L3	NUT (or MS21042-3)
2	2			MS21919DG5	CLAMP
4	4			MS27039-1-09	SCREW
		3	**3	MS27039-1-18	SCREW
1	1			MS35489-9	GROMMET
2	2			AKS7-1032-130	INSERT (or ALS7-1032-130 or AKS4-1032-130 or ALS7-1032-130 or AELS-032-130)

\* INCLUDED AS PART OF D2011-101 MIRROR ASSEMBLY

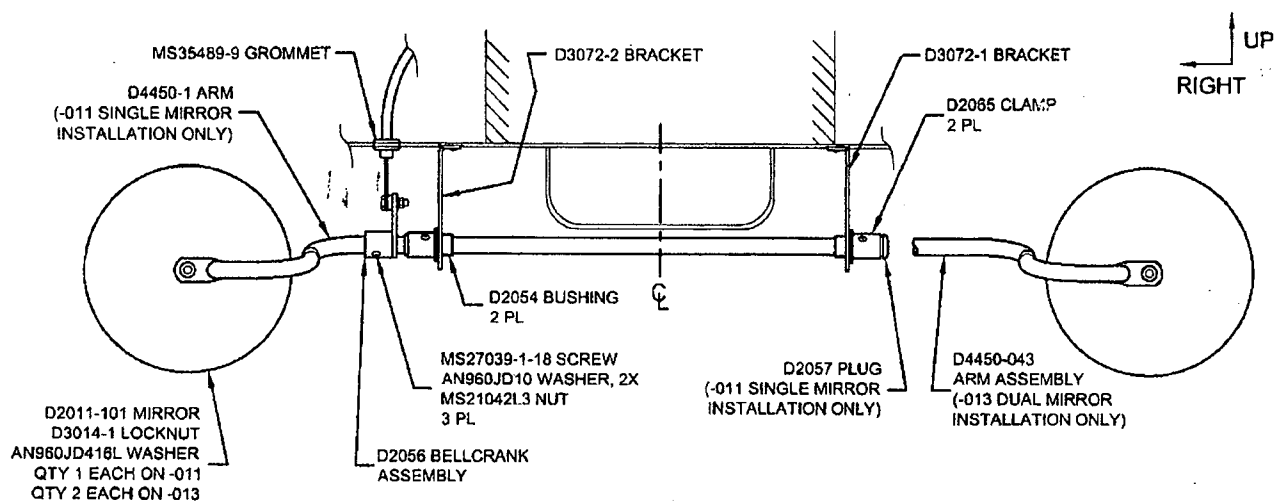
\*\* INCLUDED WITH D4450-043 ARM

# 76916

Qty -011	Qty -013	Part Number	Description
X		DSI-9578-011	MIRROR ARM UPGRADE KIT (SINGLE CARGO MIRROR INSTALLATION)
	X	DSI-9578-013	MIRROR ARM UPGRADE KIT (DUAL CARGO MIRROR INSTALLATION)
	**2	D2054	BUSHING
	**2	D2055	CLAMP
	**1	D2056	BELL CRANK
1		D2057	PLUG
	**1	D3072-1	BRACKET
	**1	D3072-2	BRACKET
1		D4450-1	ARM
	1	D4450-043	ARM ASSEMBLY
	**6	AN960JD10	WASHER
	**3	MS21042L3	NUT (or MS21042-3)
	**3	MS27039-1-18	SCREW

\*\* INCLUDED WITH D4450-043 ARM

DESIGN		<b>DART AEROSPACE USA, INC</b>	
DRAWN		KENT, WA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		DSI 9578	SHEET 2 OF 3
APPROVED		TITLE	SCALE
DE APPR.		MIRROR ARM UPGRADE	NTS
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**FIGURE 1**

D119-696-011/-013 SINGLE/DUAL MIRROR INSTALLATION

# 176916

DESIGN		<b>DART AEROSPACE USA, INC</b>
DRAWN		KENT, WA
CHECKED		
MFG. APPR.		DRAWING NO.
APPROVED		DSI 9578
DE APPR.		TITLE
DATE	11.10.04	MIRROR ARM UPGRADE
		REV. A
		SHEET 3 OF 3
		SCALE
		NTS

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